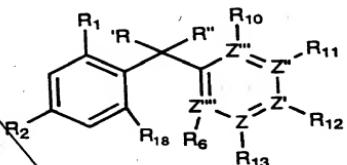
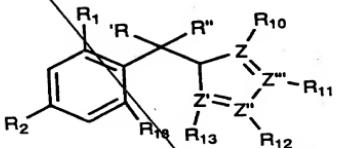


## IN THE CLAIMS

4. (Amended) A pharmaceutical composition comprising in a pharmaceutically acceptable vehicle suitable for enteral, parenteral, or topical administration, one or more compound [of claim 1] having the formula:

orwherein

R<sub>1</sub> and R<sub>2</sub>, each independently, represent hydrogen or lower alkyl or acyl having 1-4 carbon atoms;

R' and R'', represent hydrogen, lower alkyl or acyl having 1-4 carbon atoms, OH, alkoxy having 1-4 carbon atoms, thiol or thioether, or amino;

or R' or R'' taken together form an oxo (keto) methano, thioketo, HO-N=, NC-N=, (R<sub>1</sub>R<sub>2</sub>)N-N=, R<sub>1</sub>O-N=, R<sub>1</sub>N=, epoxy, cyclopropyl, or cycloalkyl group and wherein the epoxy, cyclopropyl, and cycloalkyl groups can be substituted with lower alkyl having 1-4 carbons or halogen;

R<sub>6</sub>, R<sub>10</sub>, R<sub>11</sub>, R<sub>12</sub>, R<sub>13</sub>, each independently represent hydrogen or a lower alkyl having 1-4 carbons, halogen, nitro, OR<sub>1</sub>, SR<sub>1</sub>, NR<sub>1</sub>R<sub>2</sub> or (CF<sub>3</sub>)<sub>2</sub>CF<sub>2</sub>, and exist only if the Z, Z', Z'', Z''', or Z'''' from which it originates is C, or each independently represent hydrogen or a

*Sub C2*  
lower alkyl having 1-4 carbons if the Z, Z', Z", Z"', or Z''' from which it originates is N, and where one of R<sub>6</sub>, R<sub>10</sub>, R<sub>11</sub>, R<sub>12</sub> or R<sub>13</sub> is X:

R<sub>1</sub> represents hydrogen or a lower alkyl having 1-6 carbons;

R<sub>6</sub> represents hydrogen or a lower alkyl having 1-6 carbons;

R<sub>1</sub> represents a lower alkyl having 1-4 carbons, phenyl,

aromatic alkyl, or  $\alpha$ -hydroxyphenyl,  $\alpha$ -bromophenyl,  $\alpha$ -

chlorophenyl,  $\alpha$ -florophenyl, or  $\alpha$ -iodophenyl, where  $q=2-4$ ;

R<sub>11</sub> represents hydrogen, lower alkyl having 1-8 carbons,  
alkenyl (including halogen, acyl, OR, and SR, substituted  
alkenes), R<sub>1</sub>, alkyl carboxylic acid (including halogen, acyl, OR,  
and SR, substituted alkyls), alkenyl carboxylic acid (including  
halogen, acyl, OR, and SR, substituted alkenes), alkyl amines  
(including halogen, acyl, OR, and SR, substituted alkyls), and  
alkenyl amines (including halogen, acryl, OR, and SR, substituted  
alkenes);

R<sub>18</sub> represents hydrogen, a lower alkyl having 1-4 carbons,  
halogen, nitro, OR<sub>2</sub>, SR<sub>2</sub>, NR<sub>2</sub>R<sub>3</sub>, or (CF<sub>3</sub>)<sub>n</sub>CF<sub>3</sub>;

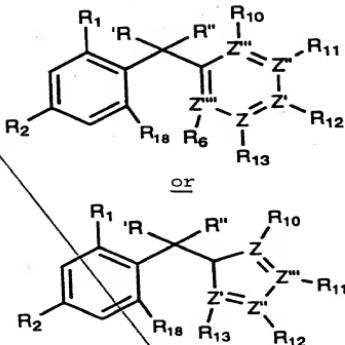
X is COOH, tetrazole, PO<sub>2</sub>H, SO<sub>2</sub>H, CHO, CH<sub>2</sub>OH, CONH<sub>2</sub>, COSH,  
COOR<sub>2</sub>, COSR<sub>2</sub>, CONHR<sub>2</sub>, or COOW where W is a pharmaceutically  
acceptable salt, and where X can originate from any C or N on the  
ring;

Z, Z', Z", Z''' and Z''', each independently, represent C, S,  
O, N, or a pharmaceutically acceptable salt, but is not O or S if  
attached by a double bond to another such Z or if attached to  
another such Z which is O or S, and is not N if attached by a  
single bond to another such Z which is N; and

$n = 0-3$ .

*B-  
Contd*  
5. (Amended) A method for modulating a process  
mediated by one or more Retinoid X Receptors, said method

*Sub C2*  
comprising causing said process to be conducted in the presence  
of at least one compound [as set forth in claim 1] having the  
formula:



wherein  
R<sub>1</sub> and R<sub>2</sub>; each independently, represent hydrogen or lower  
alkyl or acyl having 1-4 carbon atoms;

R' and R'' represent hydrogen, lower alkyl or acyl having 1-4  
carbon atoms, OH, alkoxy having 1-4 carbon atoms, thiol or thio  
ether, or amino.

or R' or R'' taken together form an oxo (keto), methano,  
thioketo, HO-N=, NC-N=, (R<sub>1</sub>R<sub>2</sub>)N-N=, R<sub>1</sub>O-N=, R<sub>1</sub>N= epoxy,  
cyclopropyl, or cycloalkyl group and wherein the epoxy,  
cyclopropyl, and cycloalkyl groups can be substituted with lower  
alkyl having 1-4 carbons or halogen:

*B'*  
*critd*  
R<sub>6</sub>, R<sub>10</sub>, R<sub>11</sub>, R<sub>12</sub>, R<sub>13</sub> each independently represent hydrogen, a  
lower alkyl having 1-4 carbons, halogen, nitro, OR<sub>1</sub>, SR<sub>1</sub>, NR<sub>1</sub>R<sub>2</sub> or  
(CF<sub>3</sub>)<sub>2</sub>CF, and exist only if the Z, Z', Z'', Z''', or Z'''' from which  
it originates is C, or each independently represent hydrogen or a  
lower alkyl having 1-4 carbons if the Z, Z', Z'', Z''', or Z'''' from

*Sub C2*  
which it originates is N, and where one of  $R_6$ ,  $R_{10}$ ,  $R_{11}$ ,  $R_{12}$  or  $R_3$ ,

is X:

$R_7$  represents hydrogen or a lower alkyl having 1-6 carbons;

$R_8$  represents hydrogen or a lower alkyl having 1-6 carbons;

$R_9$  represents a lower alkyl having 1-4 carbons, phenyl,

aromatic alkyl, or  $\alpha$ -hydroxyphenyl,  $\alpha$ -bromophenyl,  $\alpha$ -

chlorophenyl,  $\alpha$ -florophenyl, or  $\alpha$ -iodophenyl, where  $\alpha=2-4$ ;

$R_{17}$  represents hydrogen, lower alkyl having 1-8 carbons,  
alkenyl (including halogen, acyl,  $OR_7$  and  $SR_7$ , substituted  
alkenes),  $R_{18}$  alkyl carboxylic acid (including halogen, acyl,  $OR_7$   
and  $SR_7$ , substituted alkyls), alkenyl carboxylic acid (including  
halogen, acyl,  $OR_7$  and  $SR_7$ , substituted alkenes), alkyl amines  
(including halogen, acyl,  $OR_7$  and  $SR_7$ , substituted alkyls), and  
alkenyl amines (including halogen, acyl,  $OR_7$  and  $SR_7$ , substituted  
alkenes);

$R_{19}$  represents hydrogen, a lower alkyl having 1-4 carbons,  
halogen, nitro,  $OR_7$ ,  $SR_7$ ,  $NR_7R_8$ , or  $(CF_3)_2CF$ ;

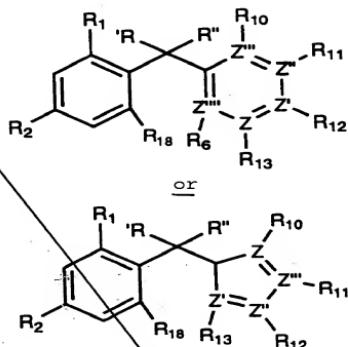
$X$  is  $COOH$ , tetrazole,  $PO_3H_2$ ,  $SO_3H$ ,  $CHO$ ,  $CH_2OH$ ,  $CONH_2$ ,  $COSH_2$ ,  
 $COOR_7$ ,  $COSR_7$ ,  $CONHR_7$ , or  $COOW$  where  $W$  is a pharmaceutically  
acceptable salt, and where  $X$  can originate from any C or N on the  
ring;

*B' attached*  
 $Z$ ,  $Z'$ ,  $Z''$ ,  $Z'''$  and  $Z''''$ , each independently, represent C, S,  
O, N, or a pharmaceutically acceptable salt, but is not O or S if  
attached by a double bond to another such  $Z$  or if attached to  
another such  $Z$  which is O or S, and is not N if attached by a  
single bond to another such  $Z$  which is N; and

$n = 0-3$ .

*Sub C3*  
*2*  
*3*  
8. (Amended) A method for modulating a process  
mediated by one or more Retinoid X Receptors, said method  
comprising administering to a mammalian subject an amount,

*Skin C*  
effective to modulate said process mediated by said one or more Retinoid X Receptors, of one or more compound [of claim 1] having the formula:



wherein

R<sub>1</sub> and R<sub>2</sub>, each independently represent hydrogen or lower alkyl or acyl having 1-4 carbon atoms;

R' and R'' represent hydrogen, lower alkyl or acyl having 1-4 carbon atoms, OH, alkoxy having 1-4 carbon atoms, thiol or thioether, or amino,

or R' or R'' taken together form an oxo (keto), methano, thioketo, HO-N=, NC-N=, (R<sub>1</sub>R<sub>2</sub>)N-N=, R<sub>1</sub>O-N=, R<sub>1</sub>N=, epoxy, cyclopropyl, or cycloalkyl group and wherein the epoxy, cyclopropyl, and cycloalkyl groups can be substituted with lower alkyl having 1-4 carbons or halogen;

*b*  
*contd*  
R<sub>6</sub>, R<sub>10</sub>, R<sub>11</sub>, R<sub>12</sub>, R<sub>13</sub>, each independently represent hydrogen, a lower alkyl having 1-4 carbons, halogen, nitro, OR<sub>1</sub>, SR<sub>1</sub>, NR<sub>1</sub>R<sub>2</sub> or (CF<sub>3</sub>)<sub>n</sub>CF<sub>3</sub>, and exist only if the Z, Z', Z'', Z''', or Z'''' from which it originates is C, or each independently represent hydrogen or a lower alkyl having 1-4 carbons if the Z, Z', Z'', Z''', or Z'''' from

*SC3*  
which it originates is N, and where one of  $R_6$ ,  $R_{10}$ ,  $R_{11}$ ,  $R_{12}$  or  $R_{13}$  is X:

$R_6$  represents hydrogen or a lower alkyl having 1-6 carbons;  
 $R_7$  represents hydrogen or a lower alkyl having 1-6 carbons;  
 $R_8$  represents a lower alkyl having 1-4 carbons, phenyl, aromatic alkyl, or  $\alpha$ -hydroxyphenyl,  $\alpha$ -bromophenyl,  $\alpha$ -chlorophenyl,  $\alpha$ -florophenyl, or  $\alpha$ -iodophenyl, where  $q=2-4$ ;  
 $R_{17}$  represents hydrogen, lower alkyl having 1-8 carbons, alkenyl (including halogen, acyl,  $OR_7$ , and  $SR_7$ , substituted alkenes),  $R_9$ , alkyl carboxylic acid (including halogen, acyl,  $OR_7$ , and  $SR_7$ , substituted alkyls), alkenyl carboxylic acid (including halogen, acyl,  $OR_7$ , and  $SR_7$ , substituted alkenes), alkyl amines (including halogen, acyl,  $OR_7$ , and  $SR_7$ , substituted alkyls), and alkenyl amines (including halogen, acyl,  $OR_7$ , and  $SR_7$ , substituted alkenes):

$R_{18}$  represents hydrogen, a lower alkyl having 1-4 carbons, halogen, nitro,  $OR_7$ ,  $SR_7$ ,  $NR_8R_9$ , or  $(CF)_nCF_3$ ;

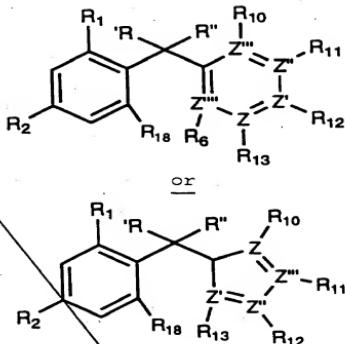
*Y*  
*With*  
 $X$  is  $COOH$ , tetrazole,  $PO_3H$ ,  $SO_3H$ ,  $CHO$ ,  $CH_2OH$ ,  $CONH_2$ ,  $COSH_2$ ,  $COOR_9$ ,  $COSR_9$ ,  $CONHR_9$ , or  $COOW$  where  $W$  is a pharmaceutically acceptable salt, and where  $X$  can originate from any C or N on the ring;

$Z$ ,  $Z'$ ,  $Z''$ ,  $Z'''$  and  $Z''''$ , each independently, represent C, S, O, N, or a pharmaceutically acceptable salt, but is not O or S if attached by a double bond to another such  $Z$  or if attached to another such  $Z$  which is O or S, and is not N if attached by a single bond to another such  $Z$  which is N; and

$n = 0-3$ .

9. (Amended) A method for treating a mammalian subject requiring Retinoid X Receptor therapy comprising administering to such subject a pharmaceutically effective amount

of one or more compounds [as set forth in claim 1] having the  
formula:



wherein

R<sub>1</sub> and R<sub>2</sub>, each independently, represent hydrogen or lower alkyl or acyl having 1-4 carbon atoms;

R' and R" represent hydrogen, lower alkyl or acyl having 1-4 carbon atoms, OH, alkoxy having 1-4 carbon atoms, thiol or thioether, or amino,

or R' or R" taken together form an oxo (keto), methano, thioketo, HO-N=, NC-N=, (R<sub>1</sub>R<sub>2</sub>)N-N=, R<sub>1</sub>O-N=, R<sub>1</sub>N=, epoxy, cyclopropyl, or cycloalkyl group and wherein the epoxy, cyclopropyl, and cycloalkyl groups can be substituted with lower alkyl having 1-4 carbons or halogen;

R<sub>6</sub>, R<sub>10</sub>, R<sub>11</sub>, R<sub>12</sub>, R<sub>13</sub> each independently represent hydrogen, a lower alkyl having 1-4 carbons, halogen, nitro, OR<sub>7</sub>, SR<sub>7</sub>, NR<sub>7</sub>R<sub>8</sub> or (CF<sub>3</sub>)<sub>2</sub>CF<sub>2</sub>, and exist only if the Z, Z', Z'', Z''', or Z'''' from which it originates is C, or each independently represent hydrogen or a lower alkyl having 1-4 carbons if the Z, Z', Z'', Z''', or Z'''' from which it originates is N, and where one of R<sub>6</sub>, R<sub>10</sub>, R<sub>11</sub>, R<sub>12</sub>, or R<sub>13</sub> is X;

*Sub C3*

R, represents hydrogen or a lower alkyl having 1-6 carbons;  
R, represents hydrogen or a lower alkyl having 1-6 carbons;  
R, represents a lower alkyl having 1-4 carbons, phenyl, aromatic alkyl, or  $\alpha$ -hydroxyphenyl,  $\alpha$ -bromophenyl,  $\alpha$ -chlorophenyl,  $\alpha$ -florophenyl, or  $\alpha$ -iodophenyl, where  $\alpha=2-4$ ;  
R, represents hydrogen, lower alkyl having 1-8 carbons, alkenyl (including halogen, acyl, OR, and SR, substituted alkenes), R, alkyl carboxylic acid (including halogen, acyl, OR, and SR, substituted alkyls), alkenyl carboxylic acid (including halogen, acyl, OR, and SR, substituted alkenes), alkyl amines (including halogen, acyl, OR, and SR, substituted alkyls), and alkenyl amines (including halogen, acyl, OR, and SR, substituted alkenes);

R, represents hydrogen, a lower alkyl having 1-4 carbons, halogen, nitro, OR, SR, NR<sub>2</sub>, or (CF)<sub>n</sub>CF<sub>3</sub>;

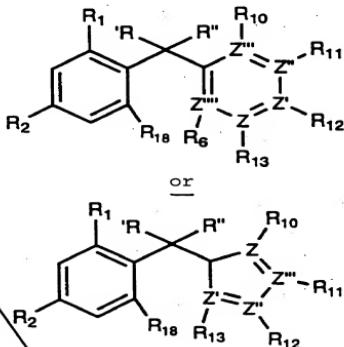
X is COOH, tetrazole, PO<sub>3</sub>H, SO<sub>3</sub>H, CHO, CH<sub>2</sub>OH, CONH<sub>2</sub>, COSH, COOR, COSR, CONHR, or COOW where W is a pharmaceutically acceptable salt, and where X can originate from any C or N on the ring;

Z, Z', Z'', Z''' and Z'''', each independently, represent C, S, O, N, or a pharmaceutically acceptable salt, but is not O or S if attached by a double bond to another such Z or if attached to another such Z which is O or S, and is not N if attached by a single bond to another such Z which is N; and

n = 0-3.

*B  
contd*

10. (Amended) A method for increasing plasma concentrations of high density lipoprotein in a mammalian subject comprising administering to such subject a pharmaceutically effective amount of one or more compounds [as set forth in claim 1] having the formula:



wherein

R<sub>1</sub> and R<sub>2</sub>, each independently, represent hydrogen or lower alkyl or acyl having 1-4 carbon atoms;

R' and R'' represent hydrogen, lower alkyl or acyl having 1-4 carbon atoms, OH, alkoxy having 1-4 carbon atoms, thiol or thioether, or amino,

or R' or R'' taken together form an oxo (keto), methano, thioketo, HO-N=, NC-N=, (R<sub>1</sub>R<sub>2</sub>)N-N=, R<sub>1</sub>O-N=, R<sub>1</sub>N=, epoxy, cyclopropyl, or cycloalkyl group and wherein the epoxy, cyclopropyl, and cycloalkyl groups can be substituted with lower alkyl having 1-4 carbons or halogen;

R<sub>6</sub>, R<sub>10</sub>, R<sub>11</sub>, R<sub>12</sub>, R<sub>13</sub>, each independently represent hydrogen, a lower alkyl having 1-4 carbons, halogen, nitro, OR<sub>7</sub>, SR<sub>8</sub>, NR<sub>9</sub>R<sub>8</sub> or (CF<sub>3</sub>)<sub>2</sub>CF<sub>2</sub>, and exist only if the Z, Z', Z'', Z''', or Z'''' from which it originates is C, or each independently represent hydrogen or a lower alkyl having 1-4 carbons if the Z, Z', Z'', Z''', or Z'''' from which it originates is N, and where one of R<sub>6</sub>, R<sub>10</sub>, R<sub>11</sub>, R<sub>12</sub>, or R<sub>13</sub> is X;

R<sub>7</sub> represents hydrogen or a lower alkyl having 1-6 carbons;

R<sub>8</sub> represents hydrogen or a lower alkyl having 1-6 carbons;

*Sub  
C<sub>3</sub>*

R<sub>1</sub> represents a lower alkyl having 1-4 carbons, phenyl, aromatic alkyl, or  $\alpha$ -hydroxyphenyl,  $\alpha$ -bromophenyl,  $\alpha$ -chlorophenyl,  $\alpha$ -fluorophenyl, or  $\alpha$ -iodophenyl, where  $\alpha=2-4$ ;

R<sub>2</sub> represents hydrogen, lower alkyl having 1-8 carbons, alkenyl (including halogen, acyl, OR<sub>2</sub> and SR<sub>2</sub> substituted alkenes), R<sub>3</sub> alkyl carboxylic acid (including halogen, acyl, OR<sub>2</sub> and SR<sub>2</sub> substituted alkyls), alkenyl carboxylic acid (including halogen, acyl, OR<sub>2</sub> and SR<sub>2</sub> substituted alkenes), alkyl amines (including halogen, acyl, OR<sub>2</sub> and SR<sub>2</sub> substituted alkyls), and alkenyl amines (including halogen, acyl, OR<sub>2</sub> and SR<sub>2</sub> substituted alkenes);

R<sub>18</sub> represents hydrogen, a lower alkyl having 1-4 carbons, halogen, nitro, OR<sub>18</sub>, SR<sub>18</sub>, NR<sub>18</sub>R<sub>19</sub>, or (CF<sub>3</sub>)<sub>n</sub>CF<sub>3</sub>;

X is COOH, tetrazole, PO<sub>2</sub>H, SO<sub>2</sub>H, CHO, CH<sub>2</sub>OH, CONH<sub>2</sub>, COSH, COOR<sub>2</sub>, COSR<sub>2</sub>, CONHR<sub>2</sub>, or COOW where W is a pharmaceutically acceptable salt, and where X can originate from any C or N on the ring;

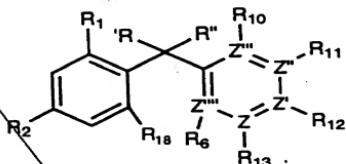
Z, Z', Z'', Z''' and Z''', each independently, represent C, S, O, N, or a pharmaceutically acceptable salt, but is not O or S if attached by a double bond to another such Z or if attached to another such Z which is O or S, and is not N if attached by a single bond to another such Z which is N; and

$n = 0-3$ .

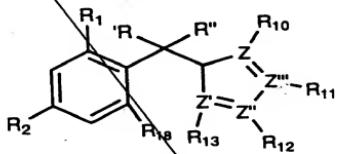
*R<sub>2</sub> until*

11. (Amended) A method for modulating a process mediated by intracellular receptors, said method comprising causing said process to be conducted in the presence of a composition comprising a first compound as set forth [in claim 1] below which selectively activates Retinoid X Receptors in preference to Retinoid Acid Receptors, in combination with a second compound which activates one or more intracellular

*glo  
C3*  
receptors other than Retinoid X Receptors, and wherein the physiological effect in mammals produced by said composition at a given concentration is greater than the additive effect achieved by utilizing each said compound alone at said concentration, said first compound having the formula:



or



wherein

R<sub>1</sub> and R<sub>2</sub>, each independently, represent hydrogen or lower alkyl or acyl having 1-4 carbon atoms;

R'<sub>1</sub> and R''<sub>1</sub> represent hydrogen, lower alkyl or acyl having 1-4 carbon atoms, OH, alkoxy having 1-4 carbon atoms, thiol or thioether, or amino,

or R'<sub>1</sub> or R''<sub>1</sub> taken together form an oxo (keto), methano, thioketo, HO-N=, NC-N=, (R<sub>1</sub>R<sub>2</sub>)N-N=, R<sub>1</sub>O-N=, R<sub>1</sub>N=, epoxy, cyclopropyl, or cycloalkyl group and wherein the epoxy, cyclopropyl, and cycloalkyl groups can be substituted with lower alkyl having 1-4 carbons or halogen;

R<sub>6</sub>, R<sub>10</sub>, R<sub>11</sub>, R<sub>12</sub>, R<sub>13</sub> each independently represent hydrogen, a lower alkyl having 1-4 carbons, halogen, nitro, OR<sub>1</sub>, SR<sub>1</sub>, NR<sub>1</sub>R<sub>2</sub> or (CF<sub>3</sub>)<sub>2</sub>CF<sub>3</sub>, and exist only if the Z, Z', Z'', Z''', or Z'''' from which it originates is C, or each independently represent hydrogen or a

*Glen C*  
~~lower alkyl having 1-4 carbons if the Z, Z', Z'', Z''', or Z'''' from which it originates is N, and where one of R<sub>6</sub>, R<sub>10</sub>, R<sub>11</sub>, R<sub>12</sub> or R<sub>13</sub> is X.~~

~~R<sub>7</sub> represents hydrogen or a lower alkyl having 1-6 carbons;~~

~~R<sub>8</sub> represents hydrogen or a lower alkyl having 1-6 carbons;~~

~~R<sub>9</sub> represents a lower alkyl having 1-4 carbons, phenyl, aromatic alkyl, or  $\alpha$ -hydroxyphenyl,  $\alpha$ -bromophenyl,  $\alpha$ -chlorophenyl,  $\alpha$ -fluorophenyl, or  $\alpha$ -iodophenyl, where  $\alpha$ =2-4;~~

~~R<sub>17</sub> represents hydrogen, lower alkyl having 1-8 carbons, alkenyl (including halogen, acyl, OR<sub>7</sub>, and SR<sub>7</sub>, substituted alkenes), R<sub>9</sub>, alkyl carboxylic acid (including halogen, acyl, OR, and SR, substituted alkyls), alkenyl carboxylic acid (including halogen, acyl, OR, and SR, substituted alkenes), alkyl amines (including halogen, acyl, OR, and SR, substituted alkyls), and alkenyl amines (including halogen, acyl, OR, and SR, substituted alkenes);~~

~~R<sub>18</sub> represents hydrogen, a lower alkyl having 1-4 carbons, halogen, nitro, OR<sub>8</sub>, SR<sub>8</sub>, NR<sub>9</sub>R<sub>8</sub>, or (CF)<sub>n</sub>CF<sub>3</sub>;~~

~~X is COOH, tetrazole, PO<sub>2</sub>H, SO<sub>2</sub>H, CHO, CH<sub>2</sub>OH, CONH<sub>2</sub>, COSH, COOR<sub>9</sub>, COSR<sub>9</sub>, CONHR<sub>9</sub>, or COOW where W is a pharmaceutically acceptable salt, and where X can originate from any C or N on the ring;~~

*52*  
*uncell*  
~~Z, Z', Z'', Z''' and Z'''', each independently, represent C, S, O, N, or a pharmaceutically acceptable salt, but is not O or S if attached by a double bond to another such Z or if attached to another such Z which is O or S, and is not N if attached by a single bond to another such Z which is N; and~~

~~n = 0-3.~~